

CLAIMS

What is claimed is:

1. A method for recognizing speech comprising:
comparing a predetermined number of spoken characters to a corresponding set of
5 character strings stored in a memory;
selecting a group of character strings from the memory based on the first comparison;
comparing a second predetermined number of spoken characters to the corresponding
characters in the selected group of character strings; and
identifying the spoken characters based upon the second comparison.
- 10 2. The method according to claim 1, where the corresponding character string is stored
in the memory according to a tree structure.
3. The method according to claim 1, where the predetermined number of spoken
characters is a portion of the total characters in a spoken character string.
- 15 4. The method according to claim 1, where the act of selecting further comprises
calculating a matching probability based on the first comparison.
5. The method according to claim 1, where the second comparison further comprises
comparing all of the spoken characters to the characters in the selected character strings.
6. The method according to claim 1, where the second comparison compares more
characters than the first comparison.
- 20 7. The method according to claim 1, where the second comparison compares additional
characters in incremental steps.
8. The method according to claim 1, where identifying further comprises recognizing a
selected character string that has the highest probability of identifying the spoken character
string.

9. A system for speech recognition comprising:
a microphone;
a processor for digitizing speech signals received from the microphone;
a memory coupled to the processor for storing character strings;
5 a comparator for comparing a spoken character string formed from the speech signals
to the stored character strings in the memory; and
a controller programmed to select a group of stored character strings based on a
comparison of a predetermined number of characters of the spoken character string to a
predetermined number of stored characters and further programmed to identify a stored
10 character string within the group of stored character strings that recognizes the spoken
character string.
10. The system according to claim 9, where the stored character strings are stored in the
memory according to a tree structure.
11. The system according to claim 9, where the predetermined number of spoken
15 characters is a portion of the characters in the spoken character string.
12. The system according to claim 9, where the controller is further programmed to
identify the spoken character string by comparing all of the spoken characters to the
characters in the selected character strings.
13. The system according to claim 12, where all of the spoken characters are compared in
20 incremental steps.
14. The system according to claim 9, where the controller is further programmed to select
by calculating a matching probability based on the comparison.
15. The system according to claim 9, where the controller is further programmed to
identify a stored character string within the group of stored character strings that has the
25 highest probability of identifying the spoken character string.

16. A system for sound recognition comprising:
a microphone;
a processor for digitizing sound signals received from the microphone;
a memory coupled to the processor for storing character strings;
5 a comparator for comparing a sound character string formed from the sound signals to
the stored character strings in the memory; and
a controller programmed to select a group of stored character strings based on a
comparison of a predetermined number of characters of the sound character string to a
predetermined number of stored characters and further programmed to identify a stored
10 character string within the group of stored character strings that recognizes the sound
character string.
17. A system according to claim 16, where the stored character strings are stored in the
memory according to a tree structure.
18. The system according to claim 16, where the spoken characters are compared in
15 incremental steps.
19. The system according to claim 16, where the controller is further programmed to
select by calculating a matching probability based on the comparison.
20. The system according to claim 16, where the controller is further programmed to
identify a stored character string within the group of stored character strings that has the
20 highest probability of identifying the sound character string.